

WHAT IS CLAIMED IS:

- 5 1. A power detection system, comprising:
 - a detector having an output and a return; and
 - a device to selectively couple the detector output to the detector return when the device requires power.
- 10 2. The power detection system of claim 1 wherein the detector output comprises a signal having a first pulse with a first pulse width and a second pulse with a second pulse width different from the first pulse width, said filter passing the first pulse and attenuating the second pulse.
- 15 3. The power detection system of claim 2 wherein the second pulse width is programmable.
4. The power detection system of claim 2 wherein the detector determines that the device requires power when the detector return comprises the first pulse but not the second pulse.
- 20 5. The power detection system of claim 4 further comprising a power source selectively coupled to the device when the detector determines that the device requires power.
- 25 6. The power detection system of claim 1 wherein the detector output comprises a signal, and the detector determines that the device requires power when the detector return comprises the signal.
- 30 7. The power detection system of claim 6 wherein the detector determines that the device requires power only if the detector return comprises the signal within a predetermined time window.
8. The power detection system of claim 7 further comprising a power source selectively coupled to the device when the detector determines that the device requires power.

9. The power detection system of claim 1 wherein the detector output includes a pseudo random word comprising a plurality of pulses.

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10. The power detection system of claim 1 wherein the detector output comprises a identifier comprising a plurality of pulses.

11. The power detection system of claim 1 further comprising a power source 10 selectively coupled to the device.

12. The power detection system of claim 1 wherein the device comprises an IP telephone.

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13. A detecting station having an input and a return, comprising: a word generator coupled to the detecting station output; and a comparator to compare the detecting station output with the detecting station return.

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14. The detecting station of claim 13 wherein the word generator comprises a free running timer.

15. The detecting station of claim 13 further comprising a controller having an address, and wherein the word generator comprises an output having the controller address.

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16. The detecting station of claim 13 further comprising a pulse shaping device coupled between the word generator and the detecting station output.

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17. The detecting station of claim 16 wherein the pulse shaping device is programmable, the detecting station further comprising a controller to program the pulse shaping device.

18. The detecting station of claim 17 further comprising a power source, and wherein the controller programs the pulse shaping device to output a first pulse having a first pulse width

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and a second pulse having a second pulse width different from the first pulse width, the controller enabling the power source when the comparator detects the first pulse but not the second pulse.

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19. The detecting station of claim 13 further comprising a power source, and a controller to enable the power source in response to a comparator output.

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20. The detecting station of claim 19 further comprising a register coupled between the word generator and the detecting station output, the register latching a word generator output in response to a trigger from the controller, and a timer enabled by the trigger for a predetermined time thereafter, the power source being enabled by the controller in response to the comparator output only while the timer is enabled.

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21. A method for detecting a device requiring power, comprising:
transmitting a pulse to the device;
receiving the pulse from the device; and
detecting whether the device requires power in response to the received pulse.

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22. The method of claim 21 wherein the power requirement detection comprises applying power to the device.

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23. The method of claim 21 wherein the pulse transmission comprises transmitting a pseudo random word comprising a plurality of pulses.

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24. The method of claim 21 wherein the pulse transmission comprises transmitting a identifier comprising a plurality of pulses.

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25. The method of claim 21 wherein the transmitted pulse has a pulse width, the method further comprising transmitting another pulse having a different pulse width to the device.

26. The method of claim 25 further comprising programming the second pulse width.

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27. The method of claim 25 wherein the power requirement detection comprises applying power to the device when the received pulse comprises the transmitted pulse but not
5 said another transmitted pulse.

28. The method of claim 21 wherein the power requirement detection comprises applying power to the device when the received pulse comprises the transmitted pulse.

10 29. The method of claim 28 wherein the power requirement detection comprises applying power to the device when the received pulse comprises the transmitted pulse within a predetermined time after the transmitted pulse is transmitted to the device.

30. The method of claim 21 wherein the device comprises an IP telephone.

15 31. A transmission system, comprising:
a transmission line interface having at least one port;
a two-way transmission line coupled to one of the ports; and
a device coupled to the two-way transmission line, the device selectively coupling
20 the two-way transmission line together when the device requires power.

32. The transmission system of claim 31 wherein the transmission line interface outputs first and second pulses to the device through the two-way transmission line, each of the pulses having a pulse width different from one another.

25 33. The transmission system of claim 32 wherein the second pulse width is programmable.

30 34. The transmission system of claim 32 wherein the transmission line interface determines that the device requires power when the transmission line interface detects the first pulse from the two-way transmission line but not the second pulse.

35 35. The transmission system of claim 34 wherein the transmission line interface further comprises a power source selectively coupled to the device through the two-way transmission line when the transmission line interface determines that the device requires power.

36. The transmission system of claim 31 wherein the transmission line interface outputs a signal to the device through the two-way transmission line, and the transmission line interface determines that the device requires power when the transmission line interface detects the signal from the device through the two-way transmission line.

37. The transmission system of claim 36 wherein transmission line interface determines that the device requires power only if the transmission line interface detects the signal from the device through the two-way transmission line within a predetermined time after the transmission line interface outputs the signal.

38. The transmission system of claim 37 wherein the transmission line interface further comprises a power source selectively coupled to the device through the two-way transmission line when the transmission line interface determines that the device requires power.

39. The transmission system of claim 31 wherein the transmission line interface outputs a pseudo random word comprising a plurality of pulses.

40. The transmission system of claim 31 wherein the transmission line interface outputs a identifier comprising a plurality of pulses.

41. The transmission system of claim 31 wherein the transmission line interface comprises a power source selectively coupled to the device through the two-way transmission line.

42. The transmission system of claim 31 wherein the device comprises an IP telephone.

43. The transmission system of claim 31 further comprising a second device not requiring power.

44. The transmission system of claim 43 wherein the device comprises an IP telephone and the second device comprises a computer.

45. The transmission system of claim 43 wherein the transmission line interface comprises a power source selectively coupled to the device through the two-way transmission line.

5 46. The transmission system of claim 45 wherein the transmission line interface provides two-way communication between the device and the second device when the power source is selectively coupled to the device.

10 47. The transmission system of claim 31 wherein the transmission line interface comprises a switch.

15 48. A detector having an output and a return, comprising:
a word generator coupled to the detector output; and
a comparator to compare the detector output with the detector return.

49. The detector of claim 48 wherein the word generator comprises a free running timer.

20 50. The detector of claim 48 further comprising a pulse shaping device coupled between the word generator and the detector output.

51. The detector of claim 50 wherein the pulse shaping device is programmable.

25 52. The detector of claim 51 wherein the pulse shaping device is programmed to output a first pulse having a first pulse width and a second pulse having a second pulse width different from the first pulse width.

30 53. The detector of claim 48 further comprising a register coupled between the word generator and the detector output, the register latching a word generator output in response to a trigger, and a timer enabled by such trigger for a predetermined time thereafter, the comparator being enabled only while the timer is enabled.